Ludum Dare 44 - A 43 hour project

Blog - Programming - 04

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05. May 2019

Abstract

As a team of 4, we have participated in the Ludum Dare 44 gamejam on the weekend of the 27th and 28th of April 2019. During the event we have created a rogue like dungeon card game called "Card of Life", which centers around the theme "Your life is currency".

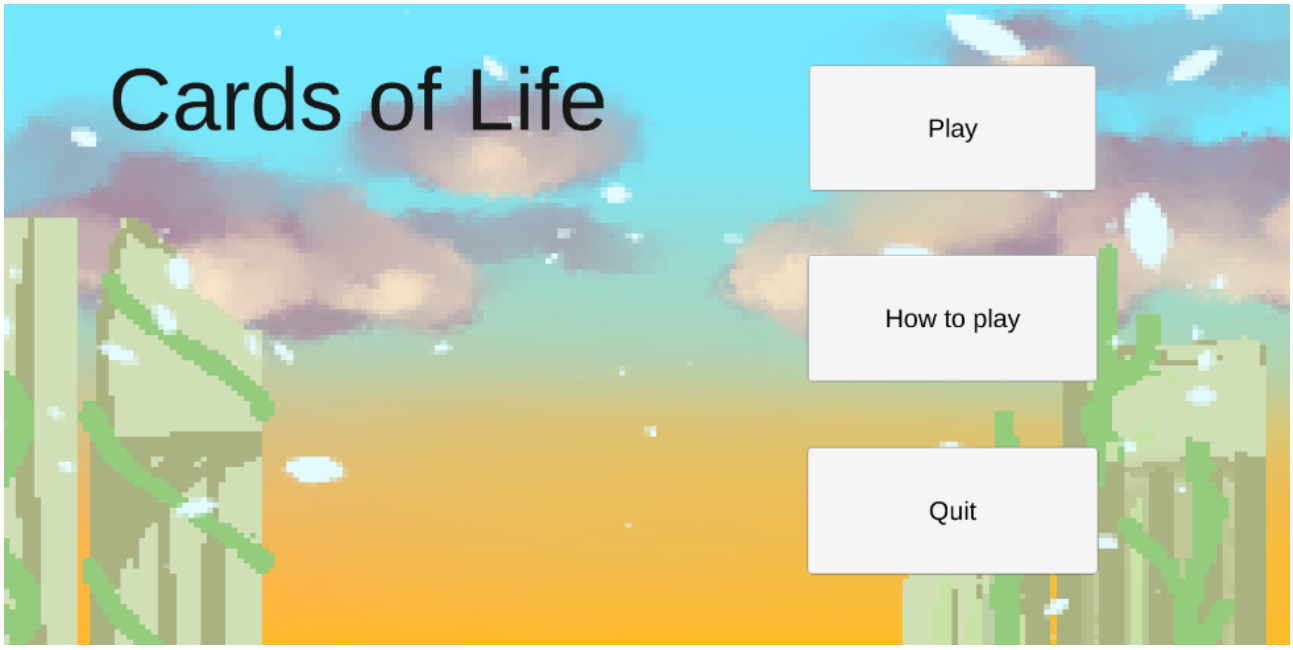

Figure 0.1 Main menu "Card of Life"

1 Introduction

The Ludum Dare gamejam is one of the biggest global gamejams in the world, with over 2000 submissions in the Jam category alone. The event is split into a normal (Jam) and hardcore (Compo) part. The Compo is limited to 48 hours and requires the participants to create all assets and code themselves and also to work alone. The Jam is more lightweight, because teams of all size can participate in a 72 hour competition. Unlike the Compo, using others assets and code is not prohibited, but the game then has to opt out of the corresponding review categories. After the end of the time frames, the review (or rate) phase starts and the people can play the games and give them a rating with stars as well as a review through a comment. After the phase has ended, the winners in each category are announced and gain honor and glory.

2 Our gamejam

2.1 The team

As for the last Ludum Dare, Maarten and I formed a team. But this time Joshua joined in, as well as Krysta, a friend of Maarten. So with a doubled team strength, a lot was possible within 48 hours. We only had 48 hours to work on a project, because this time the event did not take place during the semester holidays, so we had to attend the lectures on Monday.

During the event, Maarten and I were responsible for most of the code (except the enemies, which Joshua created), while Joshua and Krysta mostly worked on the art.

Figure 2.1 Screenshot of the main character

2.2 The idea

Because the event starts at a very humane time (3 am), we decided to meet at 8 am. The theme "Your life is currency", like most themes, has 2 sides of the same coin. On the one hand the theme is very interesting regarding gameplay mechanics, on the other hand it leads to a lot of identical game ideas. Why does this happen? A big factor are the commercial and popular games. Binding of Isaac is probably one of the games a lot of people (including us) had in mind while searching the possible idea space. The games, that stick out of the mass are the ones adding a special touch to the existing game idea. In our case this addition came in form of a card game. The base of our game should be a normal rogue like dungeon game, but instead of fighting all the time, the player can only dodge the enemies,

while the card phase is not up. When a timer is up, time freezes and the player can choose one of 3 cards and activate its spell. The spells are either heal, shield or damage spells. After each round the player can trade in the remaining health points into new spells. So the better a player is, the better his deck for the next round becomes.

We actually had a lot of other ideas, which would have fit the theme as well and are not really close to already existing games. But as usual, these ideas are good for longer projects, not a 48 hour gamejam. One idea that I'd like to point out here, is a game in which you play as a vampire who has to bite enemies in order to regain health points. The health points would be consumed by all kinds of actions. This game could become a stealth, rogue like, strategy or completely different game.

2.3 The development

To create the combination of a card and rogue like game, we had to create the base of card game as well as a fully functional rogue like game. Luckily Maarten created a card game during the last holidays. This way we saved a lot of time, because Maarten 'only' had to port his multiplayer card game mechanics into a single-player environment. After that he worked on implementing a spell system, which is split into two phases. The first is the drag phase, where an indicator should be displayed at the mouse's position. The second phase is the actual ability phase, where time is not frozen anymore and the actual effect starts and flies towards the mouse position or is self cast. This abstraction of phases is achieved through the Update method in Unity. In it, a flag is sued to determine which phase the game is currently in, and disable the other behaviour. When time start again, this flag is reversed and activates the spell behaviour.

Joshua sat down and worked on the enemy behaviour script, which had to be very modular as we wanted a few different enemy types in our game. As seen in Figure 2.2, he solved this by creating flags and parameters for behaviour patterns and abilities. If a flag is set to true, the behaviour or spell is added to the enemy. This way every enemy prefab gets it's own configuration through the same script and even more combinations and therefore derivations of existing enemies are possible. When he finished the enemy script Joshua switched to creating the enemy sprites and spells. This switch was partially voluntary as well as partially forced. Because after some time Unity stopped working and coding was no option anymore.

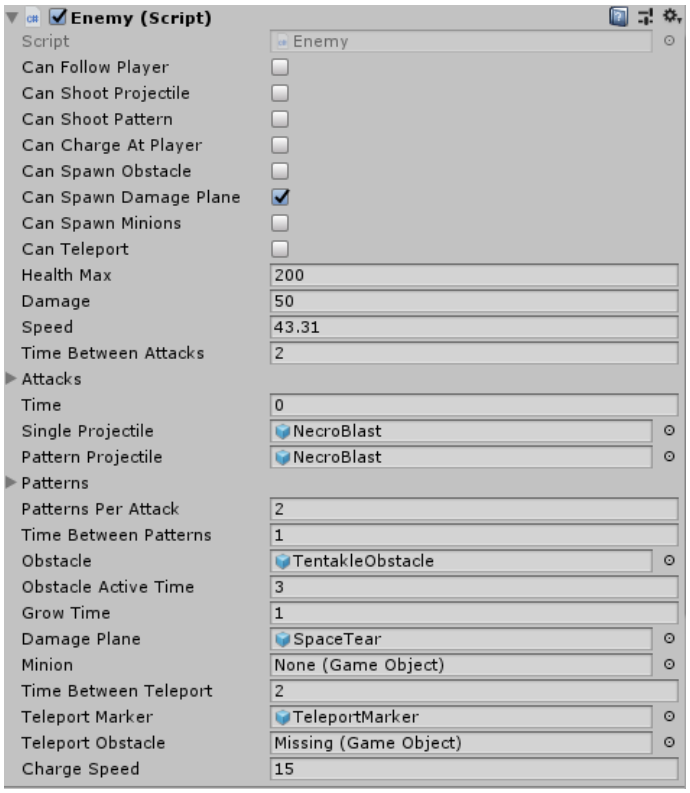

Figure 2.2 Example enemy script configuration

Krysta created a few backgrounds and most importantly the main character, a mystical raccoon mage, and some sprite animations for it. Later on she worked on the design for the cards, which came out very unique and detailed.

Figure 2.3 One of the game's background and a basic spell card

At the beginning I worked on the player movement, which has to be on point and responsive for a rogue like dungeon game. The player is able to walk in 8 directions and can perform a dodge roll in

the current (or last) direction he is walking in. The main problem was the dodge roll, as the movement can be created with the Unity physics system in a few minutes. The movement works by resetting the rigidbody's velocity and then summing the vectors of the corresponding keys to the velocity up. This allows the desired canceling of movement, when two keys, representing opposite directions, are pressed. When adding the dodge roll to the movement, I multiply the resulting movement vector with a value. But this can create a visual problem. If the dodge multiplier is too high, it looks like the character has teleported between two points. At the same time, when the multiplier is too small, the dodge roll has no effect. After playing around with multiple implementations, I found, that this method still offers the best result and can be tweaked to look relatively continuous. After that all we needed was the card shop and the combination of all parts. The shop was very easy to implement, as it mainly consists of animations. To our surprise, the combination off all parts went really well and we got a running version within a few hours.

We also have a soundtrack, which I created in MuseScore 2 with a basic orchestral setup.

3 A game in 43 hours - a resume

Creating a game in 43 hours is definitely not an easy task. But as we have shown, gathering a dedicated and talented team allows for good results. The Ludum Dare gamejam is always a great opportunity to show what everyone is capable of and also what we have learned over the course of the last semester. The important part is, that avoidable problems, such as git merge conflicts and doing the same work at the same time, need to be prevented. 43 hours of game development are a lot, but the time has to be used for creating and not for solving issues, that could have been avoided through communication and attention to the other team members. In the end, I can recommend everyone to participate in gamejams, and especially the Ludum Dare, to improve team and communication skills as well as having fun with friends.

4 Final words

Before the acknowledgements, I want to apologize, because I did not post last week. First I forgot to copy my website project onto my notebook and then the gamejam hindered me to finish the blog post. So as I already announced on Twitter, from now on I will post my blog on Sunday, as I need the free time on the weekend to finish the blog posts and integrate them into the website.

You can find the game on the dedicated Ludum Dare site Card of Life or on my itch.io site as well. But before checking it out, make sure, to take a look at the amazing art Krysta posts on her Instagram Krys.rt. Also make sure to follow Joshua on Twitter @devploration, when he'll post in the future! And if you want to contact Maarten, his e-mail is maarten.bussler@gmail.com.

If you want to stay updated on my projects, future gamejams or projects, follow me on Twitter: @lucahohmann.

And yes, thanks for reading, have a good day and see you next time
Luca =)